

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Original) A method of treating tissue located in the throat, nasopharynx, oropharynx and/or larynx of a patient using an electrosurgical system comprising:

an electrosurgical generator adapted to generate a radio frequency oscillating voltage output across first and second output terminals;

an electrosurgical instrument having an active tissue treatment electrode connected to the first generator output terminal;

fluid delivery means for delivering electrically-conductive fluid to the lesion to be treated; and

a return electrode connected to the second generator output terminal,

the method comprising the steps of:

isolating from the trachea and lungs, in a substantially fluid-tight manner, a space including the nasopharynx, oropharynx or pharynx and larynx, and within which at least the active electrode is located;

operating the fluid delivery means at least partly to fill the space with

electrically-conductive fluid;

operating the generator to apply a radio frequency voltage between the active and return electrodes, and completing at least a part of a conduction path between the active and return electrodes using the electrically-conductive fluid;
and

manipulating the active electrode in the vicinity of the tissue to be treated.

2. (Original) The method according to claim 1, wherein the active electrode is manipulated to vaporize the tissue.

3. (Original) The method according to claim 1, further comprising the step of positioning the return electrode within the space.

4. (Original) The method according to claim 1, wherein the electrosurgical instrument comprises a shaft, and the active and return electrodes are located on a distal end of the shaft, the method further comprising the steps of positioning the proximal end of the shaft to extend out of the space, and manipulating the active

electrode by moving the proximal end of the shaft.

5. (Original) The method according to claim 1, wherein the electrically-conductive fluid is supplied to the space continually, and the method further comprises the step of removing waste matter from within the space.

6. (Original) The method according to claim 1, wherein the electrically-conductive fluid is saline.

7. (Original) The method according to claim 1, wherein the space including the nasopharynx, oropharynx or pharynx and larynx is isolated from the trachea and lungs by means of an inflatable cuff which forms a seal with a portion of the trachea.

8. (Original) The method according to claim 7, wherein the method further comprises the step of putting the patient in the supine position and filling the larynx' sub-glottic and supra-glottic regions, the nasopharynx, the oropharynx or the pharynx, and the patient's vocal cords, epiglottis and piriform fossae with the

electrically-conductive fluid.

9. (Original) The method according to claim 7, wherein the inflatable cuff surrounds a tracheostomy tube.

10. (Original) A method according to claim 7, wherein the inflatable cuff surrounds a nasotracheal tube.

11. (Original) The method according to claim 1, including the further step of inserting a cuffed tracheostomy tube in the patient's trachea and inflating the cuff to occlude the trachea and prevent the electrically-conductive fluid from filling the patient's lungs.

12. (Original) A method according to claim 1, including the further step of inserting a cuffed nasotracheal tube in the patient's trachea and inflating the cuff to occlude the trachea and prevent the electrically-conductive fluid from filling the patient's lungs.

13. (Original) The method according to claim 5, including the further step of inserting into the space an endoscope having a first channel for delivering the conductive fluid and a second channel for inserting the active electrode.

14. (Original) The method according to claim 13, including the further step of removing the conductive fluid from the space through an opening in the electrosurgical instrument.

15. (Original) The method according to claim 1, wherein the space including the nasopharynx, the oropharynx, or the pharynx and larynx is filled with the electrically-conductive fluid, whereby the fluid's upper extension is bounded by the patient's palate and a varying degree of the patient's tongue will be immersed in the electrically-conductive fluid, depending on the level of fluid employed during surgery to treat the tissue.

16. (Original) The method according to claim 1, including the further step of using an inflatable laryngeal mask over the patient's mouth to form an upper boundary for the electrically-conductive fluid contained in the space including the

nasopharynx, oropharynx or pharynx and larynx.

17. (Original) The method according to claim 16, wherein the inflatable laryngeal mask includes an opening for inserting into the space an endoscope having a first channel for delivering the conductive fluid and a second channel for inserting the active electrode.

18. (Original) The method according to claim 17, wherein the active electrode is manipulated to remove the tissue and a region in the nasopharynx, oropharynx, pharynx, or larynx within which the treated tissue is located.

19. (Original) The method according to claim 5, including the further step of inserting into the space through the first opening an endoscope having a fluid channel for delivering the conductive fluid and an instrument channel for inserting the active electrode.

20. (Original) The method according to claim 5, including the further step of inserting into the space an endoscope for viewing an operative site in which the

tissue is treated.

21. (Original) The method according to claim 20, including the further step of inserting the electrosurgical instrument into the space alongside the endoscope.

22. (Original) The method according to claim 19, wherein the electrosurgical instrument has a shaft with a predetermined bend to facilitate access to the operative site.

23. (Original) The method according to claim 19, wherein the electrosurgical instrument has a malleable shaft to facilitate access to the operative site.

24. (Original) The method according to claim 1, wherein the instrument includes means for removing fluid and tissue debris from the space.

25. (Original) The method according to claim 24, wherein the instrument includes means for delivering replacement fluid via the instrument itself.

26. (Original) The method according to claim 1, wherein when the output from the generator is energized, a vapor pocket forms around the active electrode's tip immersed in the conductive fluid, such that tissue brought within the vapor pocket is vaporized.

27. (Original) The method according to claim 1, wherein the treated tissue is a soft tissue lesion selected from the group consisting of malignant tumors, benign tumors, pre-malignant changes in tissue, vascular abnormalities, and other pathological lesions of the larynx and oropharynx.

28. (Original) The method according to claim 1, wherein the treated tissue is a the soft tissue lesion that is a malignant tumor and a selected zone of tissue around the tumor to ensure adequate clearance.

29. (Original) The method according to claim 1, wherein the treated tissue is a soft tissue lesion selected from the group consisting of the mucosa, connective tissue, blood vessels, lymphatics and support cartilage.

30. (Original) The method according to claim 1, wherein the treated tissue is enlarged tonsils.

31. (Original) The method according to claim 1, wherein the treated tissue is enlarged adenoids.

32. (Original) The method according to claim 1, wherein the treated tissue is tonsils and/or adenoids.

33. (Original) The method according to claim 32, including the further step of using a laryngeal mask to form an upper boundary for the electrically-conductive fluid, wherein the mask is positioned anterior to the patient's soft palate.

34. (Original) The method according to claim 11 comprising the further step of removing the tracheostomy tube once the patient is healed.

35. (Original) The method according to claim 12 comprising the further step of removing the nasotracheal tube once the patient is healed.

36. (Currently Amended) A method of treating soft tissue lesions located in a patient's oropharynx or larynx comprising the steps of:

isolating a space including the patient's oropharynx or larynx from the patient's trachea and lungs using an inflatable cuffed tube for breathing inserted in the trachea;

inflating the cuff to occlude the trachea;

filling at least a portion of the space including the oropharynx and larynx with saline;

inserting into the space ~~and~~ an endoscope to visualize an operative site in which the soft tissue lesion is treated;

inserting an electrosurgical instrument having an active tissue treatment electrode connected to a first output terminal of an electrosurgical generator inserted into the space either alongside the endoscope, or through the endoscope's working channel, the electrosurgical instrument including a return electrode connected to a second output terminal of the generator;

operating the generator to apply a radio frequency voltage between the active and return electrodes, whereby a conduction path is formed between the active and return electrodes at least partially through the saline; and
manipulating the active electrode to treat the soft tissue lesion.

37. (Original) The method according to claim 36, wherein the step of filling at least a portion of the space including the oropharynx and larynx with saline comprises the step of putting the patient in the supine position and filling the larynx' sub-glottic and supra-glottic regions, the oropharynx, and the patient's vocal cords, epiglottis and piriform fossae with saline.

38. (Original) The method according to claim 36, wherein the step of filling at least a portion of the space including the oropharynx and larynx with saline results in the saline having an upper extension that is bounded by the patient's palate, and wherein at least a portion of the patient's tongue is immersed in the saline.

39. (Original) The method according to claim 38, wherein the saline has a

lower extension that is bounded by an upper side of the inflatable cuff.

40. (Original) The method according to claim 36 including the further step of using an inflatable laryngeal mask over the patient's mouth to form an upper boundary for the saline contained in the space including the oropharynx and larynx.

41. (Original) The method according to claim 40, wherein the inflatable laryngeal mask includes an opening for inserting into the space an endoscope having a first channel for delivering the saline to the space and a second channel for inserting the electrosurgical instrument into the space.

42. (Original) The method according to claim 36, wherein the output from the generator results in a vapor pocket being formed around the active electrode's tip when immersed in the saline, such that tissue brought within the vapor pocket is vaporized.

43. (Original) The method according to claim 36, wherein the output from

the generator results in tissue brought within contact to the active electrode's tip is desiccated.

44. (Original) The method according to claim 36, wherein the soft tissue lesion is selected from the group comprising malignant tumors, benign tumors, pre-malignant changes in tissue, vascular abnormalities, and other pathological lesions of the larynx and oropharynx.

45. (Original) The method according to claim 36, wherein the soft tissue lesion treated is a malignant tumor and a selected zone of tissue around the tumor to ensure adequate clearance.

46. (Original) The method according to claim 36, wherein the soft tissue lesion is selected from the group comprising the mucosa, connective tissue, blood vessels, lymphatics and support cartilage.

47. (Original) The method according to claim 36 comprising the further step of removing the breathing tube once the patient is healed.

48. (Original) The method according to claim 36, wherein the breathing tube is a tracheostomy tube.

49. (Original) The method according to claim 36, wherein the breathing tube is a nasotracheal tube.

50. (Currently Amended) A method of treating enlarged tonsils located in a patient's nasopharynx and/or throat comprising the steps of:

isolating a space including the patient's nasopharynx and larynx from the patient's trachea and lungs using an inflatable cuffed tube for breathing inserted in the trachea;

inflating the cuff to occlude the trachea;

filling at least a portion of the space including the nasopharynx and larynx with saline;

inserting into the space ~~and~~ an endoscope to visualize an operative site in which the tonsils are treated;

inserting an electrosurgical instrument having an active tissue treatment

electrode connected to a first output terminal of an electrosurgical generator inserted into the space either alongside the endoscope, or through the endoscope's working channel, the electrosurgical instrument including a return electrode connected to a second output terminal of the generator;

operating the generator to apply a radio frequency voltage between the active and return electrodes, whereby a conduction path is formed between the active and return electrodes at least partially through the saline; and
manipulating the active electrode to treat the tonsils.

51. (Original) A method according to claim 50, wherein the step of filling at least a portion of the space including the nasopharynx and larynx with saline comprises the step of putting the patient in the supine position and filling the larynx' sub-glottic and supra-glottic regions, the nasopharynx, the oropharynx, and the patient's vocal cords, epiglottis and piriform fossae with saline.

52. (Original) A method according to claim 50, wherein the step of filling at least a portion of the space including the nasopharynx and larynx with saline results in the saline having an upper extension that is bounded by the patient's

palate, and wherein at least a portion of the patient's tongue is immersed in the saline.

53. (Original) A method according to claim 52, wherein the saline has a lower extension that is bounded by an upper side of the inflatable cuff.

54. (Original) A method according to claim 50 including the further step of using an inflatable laryngeal mask over the patient's mouth to form an upper boundary for the saline contained in the space including the nasopharynx and larynx.

55. (Original) A method according to claim 54, wherein the inflatable laryngeal mask includes an opening for inserting into the space an endoscope having a first channel for delivering the saline to the space and a second channel for inserting the electrosurgical instrument into the space.

56. (Original) The method according to claim 50, wherein the output from the generator results in a vapor pocket being formed around the active electrode's

tip when immersed in the saline, such that tissue brought within the vapor pocket is vaporized.

57. (Original) The method according to claim 50, wherein the output from the generator results in tissue brought within contact to the active electrode's tip is desiccated.

58. (Original) The method according to claim 50, wherein the tonsils are lymphoid tissues located on either side of the patient's throat.

59. (Original) The method according to claim 50, wherein the tonsils are lymphoid tissues in the patient's nasopharynx.

60. (Original) The method according to claim 50, wherein the tonsils are pharyngeal tonsils.

61. (Original) The method according to claim 50, wherein the tonsils are adenoids.

62. (Original) The method according to claim 50 comprising the further step of removing the breathing tube once the patient is healed.

63. (Original) The method according to claim 50, wherein the breathing tube is a tracheostomy tube.

64. (Original) The method according to claim 50, wherein the breathing tube is a nasotracheal tube.